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COOKING THERMOMETER, IN PARTICULAR FOR MICROWAVE OVENS

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COOKING THERMOMETER, IN PARTICULAR, FOR MICROWAVE OVENS

[Speisethermometer,  
insbesondere für  
Mikrowellenherde]

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Claims

1. Cooking thermometer, in particular, for microwave ovens, with a skewer-like probe section that contains at least one temperature sensor, wherein said probe section can be inserted into the food to be heated or warmed and used for controlling the [cooking] temperature, characterized by the fact that several temperature sensors (I, II, III, IV) are arranged on the probe section (4; 9, 10, 11) at different insertion depths, wherein at least one sensor (I) is situated in a position suitable for measuring the surface temperature of the food (I) [sic; 1].

2. Cooking thermometer according to Claim 1, characterized by the fact that several probe sections (9, 10, 11) are arranged on a handle (8) similar to the teeth of a comb, wherein each probe section contains at least one

temperature sensor.

3. Cooking thermometer according to Claim 1 and/or 2, characterized by the fact that a tension means which is preferably realized in the form of strap retainers (7) is attached to the handle (3) and used for securing the cooking thermometer (2) to essentially solid food to be cooked.

4. Cooking thermometer according to at least one of the preceding claims, characterized by the fact that the cooking thermometer is electrically connected to an evaluation device, and by the fact that the temperature sensor (I) which, in particular, measures the surface temperature transmits a signal to the evaluation device once a certain temperature value is reached, wherein said signal causes the evaluation device to reduce the calorific output or the microwave power.

The invention pertains to a cooking thermometer according to the preamble of Claim 1.

When warming or heating foods, in particular, frozen foods, by means of microwave energy, it is problematic to distribute the heat over the entire food cross section or food volume. For example, it should be prevented that, when thawing frozen foods, individual regions of the food to be thawed are already cooked while other regions remain frozen. It should also be prevented that excessive heating occurs on the food surface, in particular, when cooking meat, fish or the like, such that the risk of the food surface becoming dry is eliminated.

The invention is based on the objective of designing a cooking thermometer according to the preamble of Claim 1 in such a way that the aforementioned problems can be eliminated.

According to the invention, this objective is attained with the characteristics disclosed in the characterizing portion of Claim 1.

The cooking thermometer according to the invention makes it possible to measure the temperatures at different locations of the food, in particular, the surface temperature and the core temperature, with only one device that can be inserted into the food to be cooked or suspended into a liquid to be heated, wherein the measuring variable or measuring variables are used for controlling the [cooking] temperature. For this purpose, the cooking thermometer may be electrically connected to an evaluation device, wherein the temperature sensor that, in particular, measures the surface temperature delivers a signal to the evaluation device once a certain temperature value is reached, and wherein said signal causes the evaluation device to reduce the calorific output, in particular, the microwave power. Due to these measures, the surface temperature cannot additionally increase such that the food surface is prevented from becoming dry or charred. It is preferred to assign a maximum temperature value to each individual temperature sensor, i.e., to each measuring point, wherein the power is correspondingly reduced, e.g., by means of a process control, when this maximum temperature value is reached such that the temperature in the respectively critical zone is prevented from additionally increasing.

The invention is described below with reference to the embodiments that are illustrated in the figures.

The figures show

Figure 1, a perspective representation of a cooking thermometer according to the invention which is inserted into food to be cooked;

Figure 2, a sectional representation of the food to be cooked and a cooking thermometer that is realized similar to the cooking thermometer according to Figure 1, and

Figure 3, another embodiment of a cooking thermometer according to the

invention.

In Figure 1, the reference symbol 1 identifies a cut of meat that, for example, should be cooked in a microwave oven or thawed if the cut of meat is frozen. In order to control the [cooking] temperature or the microwave power, a cooking thermometer is provided which is identified by the reference symbol 2. Figure 2, in particular, shows that this cooking thermometer contains a handle 3 and a skewer-like probe section 4 that extends from this handle. Figure 2 indicates that temperature sensors I, II, III, IV are arranged along the pointed probe section 4 at different distances from the handle 3. These temperature sensors are connected to separate measuring lines that are generally identified by the reference symbol 5 and lead to the handle 3. These separate measuring lines can be connected to a not-shown electric or electronic evaluation device by means of a common measuring line 6, preferably by utilizing plug-type connectors. In the embodiment according to Figure 1, a tension means in the form of elastic strap retainers 7 of plastic is attached to the handle 3, wherein said strap retainers make it possible to secure the cooking thermometer that was inserted into the cut of meat 1 to said cut of meat. In this case, the strap retainers 7 at least partially encompass the cut of meat.

In the embodiment according to Figure 3, three probe sections 9, 10 and 11 are arranged on an oblong handle 8, wherein said probe sections are respectively provided with one or more temperature sensors that can be connected to an evaluation device by means of separate measuring lines 9', 10' and 11' or a common measuring line. Figures 2 and 3 indicate that at least one of the temperature sensors or, in the embodiment according to Figure 3, at least one of the probe sections is situated in the immediate vicinity of the food surface such that the respective surface temperature of the food can be

measured while the food is cooked. In addition, at least one other temperature sensor IV or, in the embodiment according to Figure 3, one additional probe section 11 is positioned such that the core temperature of the food can be measured. Other temperature sensors, e.g., II and III, or probe section 10 with temperature sensors arranged thereon are situated in between so as to also measure the temperature of the food between its core and its surface.

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